New England Common Assessment Program

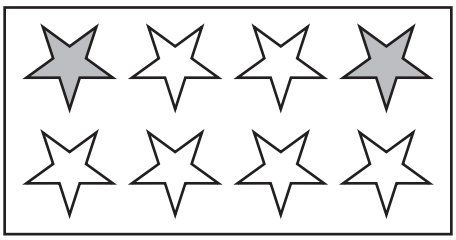
Released Items 2007

Grade 5 Mathematics

Mathematics

Item selected from Session One—no calculators or other mathematics tools allowed.

1 Look at this set of stars.



What fraction of the set of stars is shaded gray?

A. $\frac{1}{8}$

B. $\frac{1}{4}$

C. $\frac{1}{3}$

D. $\frac{1}{2}$

2 Look at this table.

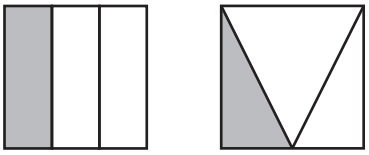
City Marathons

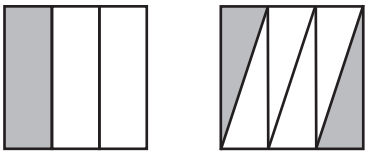
City	Number of Marathon Runners
Fairview	14,352
Glendale	14,400
Hastings	13,720
Irving	14,098

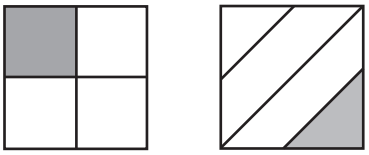
Which city had the largest number of marathon runners?

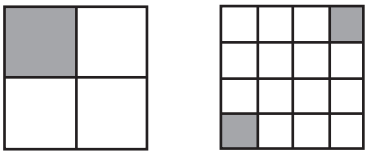
A. Fairview
B. Glendale
C. Hastings
D. Irving

❸ Which pair of figures has the same fractional area shaded gray?

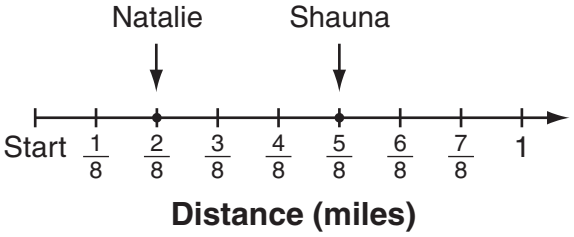
A. 

B. 

C. 

D. 

❹ Shauna and Natalie ran a race. The number line below shows the distance each girl ran in four minutes.



What is the distance between Shauna and Natalie after four minutes?

A. $\frac{1}{4}$ mile

B. $\frac{3}{4}$ mile

C. $\frac{3}{8}$ mile

D. $\frac{7}{8}$ mile

5 Mrs. Sudha is filling snack bags. She always puts 3 cookies into each snack bag. She wants to find the number of snack bags she can fill using 36 cookies. The box below shows one way to solve the problem.

> Count the number of times 3 can be subtracted from 36 until 0 is reached.

What is another way to solve the problem?

A. Divide 36 by 3.
B. Multiply 36 by 3.
C. Divide the total number of students by 3.
D. Multiply the total number of students by 3.

6 Look at this chart.

Student	Height of Plant
Suzy	$\frac{1}{2}$ yard
Meg	15 inches
Rita	1 foot, 4 inches

Which list shows the students in order from the student with the shortest plant to the student with the tallest plant?

A. Rita, Suzy, Meg
B. Suzy, Meg, Rita
C. Rita, Meg, Suzy
D. Meg, Rita, Suzy

7 If these patterns continue, which pattern will **not** contain the number 100?

A. 2, 4, 6, 8, 10, 12, . . .
B. 3, 6, 9, 12, 15, 18, . . .
C. 4, 8, 12, 16, 20, 24, . . .
D. 5, 10, 15, 20, 25, 30, . . .

8 The equation below represents the number of fluid ounces, f, in c cups of water.

$$f = 8 \times c$$

How many cups of water fill a container that holds 48 fluid ounces?

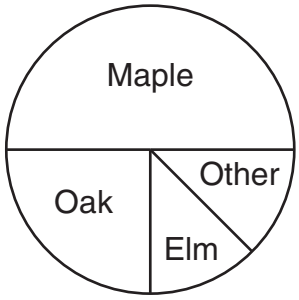
A. 6 cups
B. 40 cups
C. 56 cups
D. 384 cups

9 For a science project, Ms. Mullin put her class into 6 groups with 4 students in each group and no students left over. For a mathematics project, Ms. Mullin will put her class into groups with 2 students in each group and no students left over. How many groups of students does Ms. Mullin need for the mathematics project?

A. 3
B. 4
C. 8
D. 12

10 Look at this circle graph.

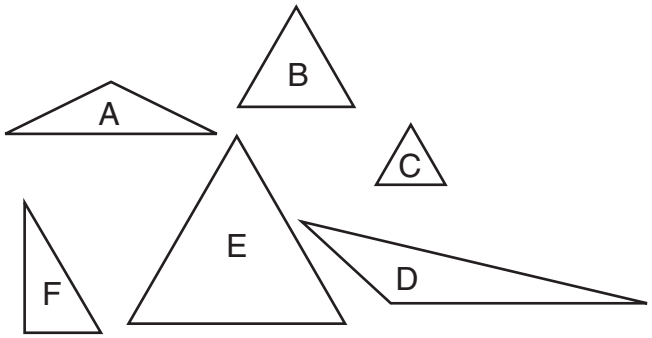
Trees in Meadow Park



Meadow Park has 12 elm trees. About how many maple trees does Meadow Park have?

A. 24
B. 36
C. 48
D. 96

⓫ Look at these triangles.



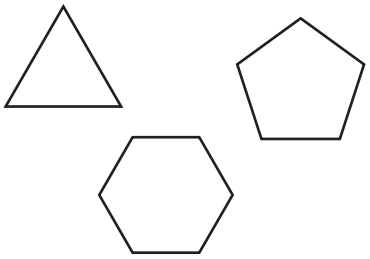
Which triangles are similar?

⓬ The list below shows the heights (in inches) of players on a basketball team.

56, 54, 57, 55, 56, 54, 61, 57, 56, 60, 56, 59

What is the range of these heights?

13 Look at these shapes.



a. Use mathematical language to write **one** way all three shapes are different.

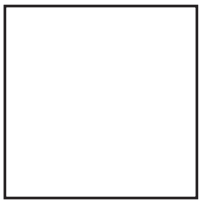
b. Use mathematical language to write **one** way all three shapes are alike.

14 A bag contains only red marbles and blue marbles.

- There are 6 marbles in the bag.
- The bag contains twice as many blue marbles as red marbles.

Nadia takes one marble from the bag without looking. What is the probability the marble is blue? Show your work or explain how you know.

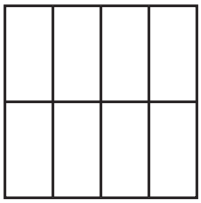
15 a. This square represents 1 pound of meat.



represents 1 pound of meat

Mr. Paulson uses $\frac{1}{4}$ pound of meat to make one hamburger. Shade the square to represent the amount of meat Mr. Paulson uses to make **three** hamburgers. Explain your reasoning.

b. This square represents 1 pound of meat. The square is divided into 8 equal sections.



represents 1 pound of meat

Mrs. Paulson uses $\frac{1}{8}$ pound of meat to make one meatball. How many meatballs can Mrs. Paulson make using $\frac{1}{2}$ pound of meat? Explain your reasoning.

Grade 5 Mathematics Released Item Information

Released Item Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
No Tools Allowed	✓		✓	✓									✓		✓
Content Strand[1]	NO	NO	NO	NO	NO	GM	FA	FA	FA	DP	GM	DP	GM	DP	NO
GLE Code	4-1	4-2	4-2	4-3	4-3	4-7	4-1	4-4	4-4	4-1	4-5	4-2	4-1	4-5	4-1
Depth of Knowledge Code	1	1	2	2	2	2	2	2	2	2	2	1	2	2	2
Item Type[2]	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	SA	SA	SA	SA	CR
Answer Key	B	B	B	C	A	D	B	A	D	C					
Total Possible Points	1	1	1	1	1	1	1	1	1	1	1	1	2	2	4

[1]Content Strand: NO = Numbers & Operations, GM = Geometry & Measurement, FA = Functions & Algebra, DP = Data, Statistics, & Probability

[2]Item Type: MC = Multiple Choice, SA = Short Answer, CR = Constructed Response